We Claim

1. An integrated circuit device which comprises

a substrate;

drive circuitry arranged on the substrate; and

a plurality of micro-electromechanical devices positioned on the substrate, each device comprising:

an elongate electrothermal actuator having a fixed end that is fast with the substrate so that the actuator is connected to the drive circuitry and a free end that is displaceable along a path relative to the substrate to perform work when the actuator receives an electrical signal from the drive circuitry, wherein

a heat sink is positioned intermediate ends of the actuator to disperse excessive heat build-up in the actuator.

2. An integrated circuit device as claimed in claim 1, in which the actuator includes a pair of elongate arms that are spaced relative to each other along the path and are connected to each other at each end, with one of the arms being connected to the drive circuitry to define a heating circuit and being of a material that is capable of expansion when heated, such that, when the heating circuit receives the electrical signal from the drive circuitry, that arm expands relative to the other to deform the actuator and thus displace said free end along said path.

3. An integrated circuit device as claimed in claim 2, in which the heat sink is positioned on the arm that defines the heating circuit.

4. An integrated circuit device as claimed in claim 1, in which each micro-electromechanical device includes a fluid ejection member positioned on the free end of the actuator, the integrated circuit device including a plurality of fluid chambers positioned on the substrate, with the substrate defining fluid flow paths that communicate with the fluid chambers, each fluid ejection member being positioned in a respective fluid chamber to eject fluid from the fluid chamber on displacement of the actuator.

5. An integrated circuit device as claimed in claim 4, in which a sidewall and a roof wall define each fluid chamber, the roof wall defining an ejection port, with the fluid ejection member being displaceable towards and away from the ejection port to eject fluid from the ejection port.

6. An integrated circuit device as claimed in claim 5, in which each fluid ejection member is in the form of a paddle member that spans a region between the respective fluid chamber and the respective fluid flow path so that, when the heating circuit receives a signal from the drive circuitry, the paddle member is driven towards the fluid ejection port and fluid is drawn into the respective fluid chamber.

7. An integrated circuit device as claimed in claim 6, in which each paddle member has a projecting formation positioned on a periphery of the paddle member, the formation projecting towards the ejection port so that the efficacy of the paddle member can be maintained while inhibiting contact between the paddle member and a meniscus forming across the ejection port.

8. An integrated circuit device as claimed in claim 1, in which each actuator includes at least one strut that is fast with each arm at a position intermediate ends of the arms.